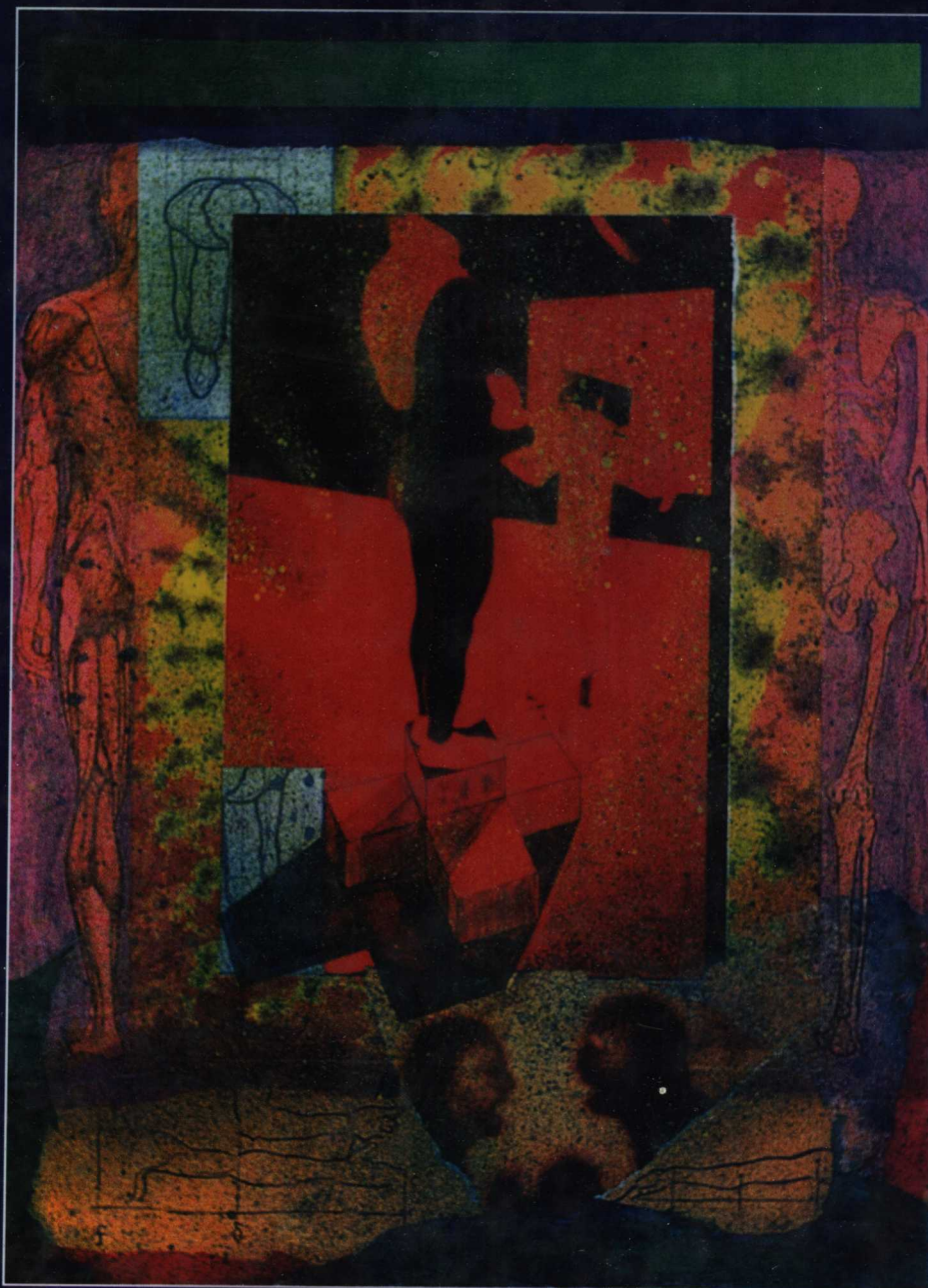


FOURTH EDITION

UNDERSTANDING PSYCHOLOGY



Robert S. Feldman



UNDERSTANDING PSYCHOLOGY

FOURTH EDITION

Robert S. Feldman

University of Massachusetts at Amherst

McGraw-Hill, Inc.

New York St. Louis San Francisco Auckland Bogotá Caracas
Lisbon London Madrid Mexico City Milan Montreal New Delhi
San Juan Singapore Sydney Tokyo Toronto

UNDERSTANDING PSYCHOLOGY

Copyright © 1996, 1993, 1990, 1987 by McGraw-Hill, Inc. All rights reserved. Printed in the United States of America. Except as permitted under the United States Copyright Act of 1976, no part of this publication may be reproduced or distributed in any form or by any means, or stored in a data base or retrieval system, without the prior written permission of the publisher.

This book is printed on acid-free paper.

3 4 5 6 7 8 9 0 VNH VNH 9 0 9 8 7 6

ISBN 0-07-021249-X

This book was set in Life Roman by York Graphic Services, Inc.
The editors were Rhona Robbin, Brian L. McKean, and Margery Luhrs;
the design was done by Initial Graphic Services, Inc.;
the production supervisor was Annette Mayeski.
The photo editor was Elyse Rieder.
Von Hoffmann Press, Inc., was printer and binder.

Cover painting: Brian Dunning, "Animus"

Library of Congress Cataloging-in-Publication Data

Feldman, Robert S. (Robert Stephen), (date).

Understanding psychology / Robert S. Feldman.—4th ed.
p. cm.

Includes bibliographical references and indexes.

ISBN 0-07-021249-X

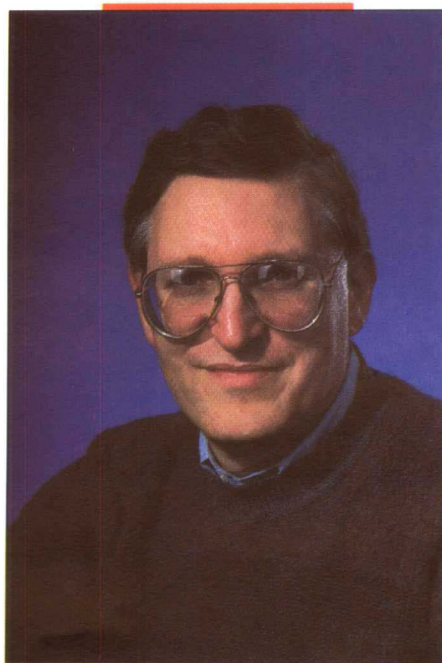
1. Psychology. I. Title.

BF121.F34 1996

150—dc20

95-7190

ABOUT THE AUTHOR



Robert S. Feldman is Professor of Psychology at the University of Massachusetts at Amherst, where he is Director of Undergraduate Studies. A graduate of Wesleyan University and the University of Wisconsin—Madison, he is a former Fulbright Senior Research Scholar and Lecturer. He has been teaching introductory psychology for more than two decades and has taught courses at Mount Holyoke College, Wesleyan University, and Virginia Commonwealth University, in addition to the University of Massachusetts.

Dr. Feldman is a Fellow of the American Psychological Association and the American Psychological Society and author of more than 100 scientific articles, book chapters, and papers. He has also written or edited more than a dozen books, including *Fundamentals of Nonverbal Behavior* (Cambridge University Press) and *Applications of Nonverbal Behavioral Theories and Research* (Erlbaum). His research interests include nonverbal behavior and the social psychology of education.

His spare time is most often devoted to serious cooking and earnest, but unpolished, piano playing. He lives with his wife, also a psychologist, and three children, in a home overlooking the Holyoke mountain range in Amherst, Massachusetts.

REVIEWERS

One of the most important features of *Understanding Psychology* is the involvement of both professionals and students in the review process. The fourth edition of *Understanding Psychology* has relied heavily—and profited substantially—from the advice of instructors and students from a range of backgrounds.

First, the manuscript was evaluated by traditional academic reviewers, who served in their capacity as content experts and teachers of psychology. These reviewers helped to ensure that this new edition was accurate and that it incorporated state-of-the-art research findings in psychology.

The second group of reviewers consisted of a panel of three students who had used the previous edition of *Understanding Psychology* in their introductory psychology class. Over the course of a subsequent semester, they reviewed the entire manuscript, literally line by line. Their insights and suggestions were invaluable to me in preparing this revision.

Finally, dozens of students read parts of the manuscript to ensure that the material was clear and engaging. Their suggestions are incorporated throughout the text.

I am grateful to all these reviewers, who provided their time and expertise to help ensure that *Understanding Psychology* reflects the best that psychology has to offer.

PROFESSIONAL REVIEWERS

Louis Banderet, Northeastern University and Quinsigamond Community College

Carol M. Batt, Sacred Heart University

Peggy Brooks, North Adams State College

Cynthia Crown, Xavier University

Ronald Finke, Texas A&M University

Lewis Harvey, University of Colorado, Boulder

Morton Hoffman, Metropolitan State University

Alfred D. Kornfeld, Eastern Connecticut State University

Barbara Lusk, Collin County Community College

Charles Miron, Catonsville Community College

Kenneth Deffenbacher, University of Nebraska, Omaha

Janet Proctor, Purdue University

Ina Samuels, University of Massachusetts, Boston

Norman Schorr, Montgomery College

Susan Shodahl, San Bernardino Valley College

Philip Stander, Kingsboro Community College

Annette Taylor, University of San Diego

Helen Taylor, Bellvue Community College

Charlene Wages, Frances Marion University

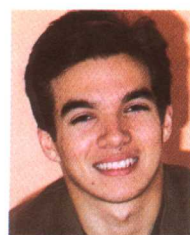
STUDENT IN-DEPTH REVIEW PANEL



Jonathan Fader



Jennifer Greene



Giachery Lizarraga

STUDENT REVIEW COORDINATORS

Richard Klimek, Montgomery College, Rockville Campus

Robert Kovacs, Camden Community College

PREFACE

As I look out the window, the form of Mount Norwotock, an ancient volcanic mountain, rises above the landscape. I can see a farmer in the valley below Norwotock methodically plowing his fields, as, closer to home, a mother walks her child to school. A crew of carpenters is building a new house on land nearby, working together and following complicated architectural plans.

At the same time as I look out on this peaceful scene, the morning newspaper lying across my desk reports another terrorist attack, a Mideast treaty broken, and a murder in a small town nearby. It tells of a march of members of a Nazi-like organization who want to expel minorities from the United States, and of the upcoming release from a mental hospital of a killer judged innocent by reason of insanity.

Although more than a decade has passed since I wrote these words at the beginning of the first edition of *Understanding Psychology*, the fundamental elements of the scene I described are little changed today. The view from my study window continues to be dominated by the outline of Mount Norwotock and the tranquil fields that dot its base. A crew of workers is putting an addition on one of the neighboring homes, and children still wend their way toward school. At the same time, my daily newspaper continues to report incidents involving irrationality, selfishness, and violent conflicts among the world's people. For better or worse, the essential characteristics of human behavior have changed little over the last ten years.

What has changed, though, is the field of psychology. The discipline has made important advances that have brought us closer to understanding people's behavior and thought processes. This book, now in its fourth edition, is a testament to the field's progress, as well as to the basic principles on which the discipline of psychology is built.

THE FOURTH EDITION OF *UNDERSTANDING PSYCHOLOGY*

The fourth edition of *Understanding Psychology* has four major goals:

1. To provide broad coverage of the field of psychology, introducing the theories, research, and applications that constitute the discipline
2. To serve as an impetus for readers to think critically about psychological phenomena, particularly those that have an impact on their everyday lives
3. To illustrate the substantial diversity both within the field of psychology and in society as a whole by presenting material that reflects the discipline's increasing concern with cultural, gender, racial, and ethnic issues
4. To arouse intellectual curiosity and build an appreciation of how psychology can increase students' understanding of the world around them

In sum, *Understanding Psychology* is meant not only to expose readers to the content—and promise—of psychology, but to do so in a way that will bring to life basic concepts and research findings and sustain interest in the discipline long after readers have completed their introductory course.

A GUIDE TO THE FOURTH EDITION

Understanding Psychology includes extensive coverage of the traditional topical areas of psychology, including the biological foundations of behavior, sensation and perception, learning, memory, cognition, human develop-

ment, personality, abnormal behavior, and social psychology. However, it also features distinctive chapters that focus primarily on applied topics, such as Chapter 15 on health psychology, and Chapter 19 on issues of diversity and ways of fostering a better society.

The flexibility of this text's organizational structure is considerable. Each chapter is divided into three or four manageable, self-contained units, allowing instructors to choose and omit sections in accordance with their syllabi. Furthermore, because chapters are self-contained, it is possible to use this book in either biologically oriented or socially oriented introductory psychology courses by choosing only those chapters that are relevant. In addition, because the applications material is well-integrated throughout, even in the chapters that cover the most traditional, theoretical topics, those courses that omit the more applied topical chapters will still be successful in conveying the relevance of psychology to readers. As a result, the book reflects a combination of traditional core topics and contemporary applied subjects, providing a broad, eclectic—and current—view of the field of psychology.

Among the most important features of the fourth edition of *Understanding Psychology*:

Chapter Outline. Each chapter opens with an outline of the chapter structure. The outline helps orient readers to the chapter content and the relationships among topics.

Prologue. Each chapter starts with an account of an actual situation that demonstrates the relevance of basic principles and concepts of psychology to pertinent issues and problems. Each of these prologues is new to this edition and reflects current events.

Looking Ahead. A chapter overview follows the prologue. It articulates the key themes and issues covered within the chapter.

Orienting Questions. Each major section within the chapter begins with several broad questions, providing a framework for understanding and mastering the material that is to come.

Psychology at Work. The Psychology at Work boxes illustrate applications of current psychological theory and research findings to real-world problems.

PSYCHOLOGY AT WORK

Psychology and the Prevention of Violence

As he walks calmly through a Long Island Railroad car, Colin Ferguson shoots several rounds of ammunition from a handgun, killing five people and injuring twenty-three others.

A hired hitman smashes a portable nightstick into the knee of figure skater Nancy Kerrigan in an effort to keep her from competing in the winter Olympics.

A woman is killed by two teenage muggers during a robbery which nets the perpetrators less than \$2.

It has been called the twentieth-century plague: violence in the United States. Surveys show that violence and crime rank at the top of any list of concerns for most



The epidemic of violence in the United States has extended into the schools, where metal detectors are sometimes used to prevent weapons from being brought to class.

gun used by a friend or acquaintance. The higher rate

that others' behavior was intended to upset them. The training resulted in a reduction of anger in the face of provocation (Graham & Hudley, 1992). One fact that has emerged quite clearly from this research is the requirement that programs be culturally, ethnically, and racially sensitive (Hammond & Yung, 1993).

- How prevalent is violence on television? It is clear that violence on television is common. One survey found that of ninety-four prime-time programs examined, forty-eight showed at least one act of violence, and they include fifty-seven people killed and ninety-nine assaulted (Hanson & Knopes, 1993). Furthermore

Pathways Through Psychology. These boxes, found in every chapter, provide biographical sketches


of people working in professions that make use of the findings of psychology.

PATHWAYS THROUGH PSYCHOLOGY

Mary Garrett
San Francisco State College,
San Francisco, California

Born: 1947
Education: A.A., City College
of San Francisco; B.A., San
Francisco State College;
currently enrolled in M.A.
program, San Francisco State
Home: San Francisco, California

Most high school students have only a vague idea of what they want to do with their lives, but as far as Mary Garrett was concerned, there absolutely was no question about it.



Mary Garrett

these effects in order to design effective psychosocial intervention," she said.


The impetus for the study was a similar project conducted by one of her professors. He had done an initial study on coping with AIDS, but he only used men in his sample. Garrett is interested in comparing how women and men deal with the disease.

"I want to find out if the coping strategies and processes are different for women. Women do have different stressors than men, such as being single mothers or being a black female in this society," she said.

The research, according to Garrett, will involve three phases.

Exploring Diversity. Every chapter includes at least one section devoted to an aspect of racial, ethnic, gender, or cultural diversity. These sections high-

light the way in which psychology informs (and is informed by) issues relating to the increasing multiculturalism of our global society.



Exploring Diversity

Culture and Perception

As the example of the Zulu indicates, the particular culture in which we are raised has clear consequences for the ways in which we perceive the world. Consider the drawing in Figure 4-24. Sometimes called the "devil's tuning fork," it is likely to produce a mind-boggling effect, as the center tine of the fork alternates between appearing and disappearing.

Now try to reproduce the drawing on a piece of paper. Chances are that the task is nearly impossible for you—unless you are a member of an African tribe with little exposure to western cultures. For such individuals, the task is simple; they have no trouble reproducing the figure. The reason seems to be that western people automatically interpret the drawing as something that cannot exist in three dimensions, and they are therefore inhibited from reproducing it. The African tribal members, on the other hand, do not make the assumption that the figure is "impossible" and instead view it in two dimensions, which enables them to copy the figure with ease (Deregowski, 1973).

Cultural differences are also reflected in depth perception. A western viewer of

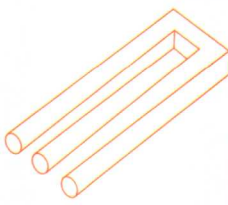



FIGURE 4-24 The "devil's tuning fork" has three prongs . . . or does it have two?

The Informed Consumer of Psychology. Every chapter includes material designed to make readers more informed consumers of psychological informa-

tion by giving them the ability to critically evaluate what the field of psychology offers.



The Informed Consumer of Psychology

Thinking Critically and Creatively

Can people be taught to be better thinkers? A growing body of evidence supports the notion that people can learn to perform better on decision-making and problem-solving tasks (Brown & Walter, 1990; Anderson, 1993). Abstract rules of logic and reasoning may be taught, and such training improves the way in which people are able to reason about the underlying causes of everyday life events. Ultimately, cognitive psychologists may routinely teach students not only to increase the skill with which they are able to solve problems, but to think more critically.

Recap and Review. Every chapter is divided into three or four sections, each of which concludes with a Recap and Review. The Recaps summarize the key points of the previous section, and the Reviews pre-

sent a variety of questions for students to answer in order to test both recall and higher-level understanding of the material.

RECAP AND REVIEW

Recap

- In solving problems, people typically pass through a series of three steps: preparation, production, and judgment.
- Insight is a sudden awareness of the relationships among various elements that had earlier seemed independent of one another.
- Among the obstacles to successful problem solving are mental set and functional fixedness, the faulty application of algorithms and heuristics, and the confirmation bias.
- Creativity is related to divergent thinking and cognitive complexity.
- Psychologists have devised several methods for enhancing critical thinking and creative problem solving.

3. Solving a problem by trying to reduce the difference between the current state and the goal state is known as a _____.
4. _____ is the term used to describe the sudden "flash" of revelation that often accompanies the solution to a problem.
5. Thinking of an object only in terms of its typical use is known as _____. A broader, related tendency for old problem-solving patterns to persist is known as a _____.
6. The _____ bias describes the phenomenon favoring an initial hypothesis and ignoring subsequent competing hypotheses.

Running Glossary. Key terms are highlighted in boldface type within the text where they are introduced and are defined in the margin of the page, with pronunciation guides for difficult words. There is also an end-of-book glossary.

Looking Back. To facilitate both the review and synthesis of the information covered, a numbered summary is included at the end of every chapter. The summary emphasizes the key points of the chapter and is organized according to the orienting questions posed at the beginning of every major section.

Key Terms and Concepts. A list of key terms and concepts, including the page numbers where they are introduced, is also provided at the end of each chapter.

WHAT'S NEW IN THE FOURTH EDITION?

This edition contains several new or significantly reorganized chapters. *Chapter 4*, Sensation and Perception, combines what were two chapters in the previous edition. The chapter provides more integration of the two subjects, as well as more concise coverage of the material. *Chapter 18*, Social Psychology, combines material that was presented in separate chapters in the previous edition. This chapter also consolidates material, integrating current research and theory on the social aspects of human behavior. Finally, *Chapter 19*, Psychology in a Diverse World, is a new chapter that reflects psychology's role and contributions to an increasingly multicultural, diverse society. It covers material on prejudice and discrimination, cross-cultural psychology, as well as psychologists' efforts to deal with global issues and problems such as terrorism.

In addition to changes in particular chapters, two major new features are found throughout the book. Every chapter includes a section called *Exploring Diversity*, which deals with an aspect of racial, ethnic, gender, or

cultural diversity. For instance, the chapter on research discusses concerns of psychologists in choosing subjects that represent a broad sample of human behavior; the chapter on learning discusses the controversy over the existence of culturally based learning styles; and the chapter on memory considers whether there are differences in basic memory processes across cultures.

Furthermore, every chapter contains a *Pathways Through Psychology* box. These boxes include biographical sketches of people who are making use of psychology in their work or professional pursuits.

Overall, a wealth of contemporary research is cited in this edition. Approximately 1000 new citations have been added, with close to 600 from publications in just the last three years. In addition to the requisite updating, a broad range of new topics have been incorporated. The following sample of the new and revised topics featured in this edition provides a good indication of the currency of the revision: psychology's role in preventing violence, distortions in surveys, brain lateralization, pheromones, cultural learning styles, the repressed memory controversy, bilingual education, measurement of intellectual ability, sexual harassment, cultural differences in academic performance, developmental changes in personality, *DSM-IV*, multiple personalities, Prozac, anger, collectivism and individualism, and aggression and culture.

THE ANCILLARY PACKAGE

The Fourth Edition of *Understanding Psychology* is accompanied by an extensive, integrated set of supplemental materials designed to support the classroom teaching of both new and veteran instructors. The student Study Guide, Instructor's Manual, and Test Bank are fully integrated to provide a consistent pedagogical framework for students and professors using *Understanding Psychology*.

The Study Guide, written by Professor Mark Garrison of Kentucky State University, has been completely

revised and features an enhanced illustration program. The Study Guide opens with an introductory essay that provides the student with suggestions for how best to utilize the SQ3R study and review method. It also features a brief guide for non-native speakers. Each Study Guide chapter contains a chapter outline with highlighted key terms, a detailed chapter summary, learning objectives keyed to page numbers in the text, and a set of self-study questions of various types and levels of difficulty.

The Instructor's Manual, written by Todd Zakrajsek of Southern Oregon State College and Mark Garrison of Kentucky State University, contains a wide variety of new lecture ideas, handouts, and resources. Designed to complement the Study Guide and Test File, each chapter in the Instructor's Manual includes a detailed chapter outline, a chapter summary, learning objectives, and a set of Lecture Resources including discussion topics, ideas for classroom demonstrations, a list of relevant films and videos, and suggestions for many new activities and projects that can be used both in and out of the classroom.

The Test File, written by Stephen Buggie of Presbyterian College, contains over 3,000 factual and conceptual multiple-choice and essay questions indexed to the text and keyed to the learning objectives. Computerized Test Banks are available in IBM (on both 5.25" and 3.5" disks) and Macintosh formats.

McGraw-Hill also provides a wide variety of audiovisual and computerized teaching aids. Available for the first time with this edition, MICROGUIDE offers a computerized version of the study guide with interactive testing and tutorial features.

Professors using *Understanding Psychology* will receive a regular update, called PsychFax, written by this book's author. PsychFax will include reports of new psychological findings and will discuss the psychological implications of current events in the news. The update can be distributed to students or incorporated into lectures.

Finally, a toll free, interactive reader comment line has been established for comments and queries. Users of *Understanding Psychology* can call 1-800-223-6880, extension 9496, to have access to this line.

ACKNOWLEDGMENTS

As the list of reviewers on page xxi attests, this book involved the efforts of many people. They lent their expertise to evaluate all or part of the manuscript, providing an unusual degree of quality control. Their careful work and thoughtful suggestions have improved the manuscript many times over from its first-draft incarnations. I am grateful to them all for their comments.

My thinking has been shaped by many teachers along

the way. I was introduced to psychology at Wesleyan University, where several committed and inspiring teachers—and in particular Karl Scheibe—conveyed their sense of excitement about the field and made its relevance clear to me. By the time I left Wesleyan I could envision no other career but that of psychologist. Although the nature of the University of Wisconsin, where I did my graduate work, could not have been more different from the much smaller Wesleyan, the excitement and inspiration were similar. Once again, a cadre of excellent teachers—led, especially, by the late Vernon Allen—molded my thinking and taught me to appreciate the beauty and science of the discipline of psychology.

My colleagues and students at the University of Massachusetts at Amherst provide ongoing intellectual stimulation, and I thank them for making the University a fine place to work. Several people also provided extraordinary research and editorial help. In particular, I am grateful to Erik Coats, a constant source of ideas and (more often than I wished) constructive criticism, and to John Graiff, who helped immeasurably on just about everything involving this book.

Every reader of this book owes a debt of gratitude to Rhona Robbin, senior developmental editor for this edition of *Understanding Psychology*. Her relentless pursuit of excellence shaped the underlying quality of this book. Brian McKean, sponsoring editor of this edition, has brought creative energy and a strong degree of commitment to the book, and I am very appreciative of his efforts.

Other people at McGraw-Hill were central to the design, production, and marketing process; these include Margery Luhrs, editing supervisor *par excellence*, designer Howard Leiderman, production supervisor Annette Mayeski, and photo editor Elyse Rieder. I am also especially appreciative of Kim Hulbert, whose marketing savvy informed the development of the fourth edition from its conception. I am proud to be a part of this world-class team.

Finally, I am, as always, indebted to my family. My parents, Leah Brochstein and the late Saul D. Feldman, provided a lifetime foundation of love and support, and I continue to see their influence in every corner of my life. My extended family also play a central role in my life. They include, more or less in order of age, my nieces and nephews, my brother, various brothers- and sisters-in-law, Ethel Radler, and Harry Brochstein. Finally, my late mother-in-law, Mary Evans Vorwerk, had an important influence on this book, and I remain ever grateful to her.

Ultimately, my children, Jonathan, Joshua, and Sarah, and my wife, Katherine, remain the focal point of my life. I thank them, with immense love.

Robert S. Feldman

TO THE STUDENT

STRATEGIES FOR EFFECTIVE STUDY AND CRITICAL THINKING

Understanding Psychology has been written with the reader in mind, and it therefore includes a number of unique features intended to help you to maximize your learning of the basic concepts, principles, and theories that make up the field of psychology. To take advantage of these features, there are several steps you should take when reading and studying this book. By following these steps, not only will you get the most out of this book, but you will also develop study habits that will help you to learn more effectively from other texts and to think critically about new material that is presented. Among the most important steps to follow:

- Familiarize yourself with the logic of the book's structure. Begin by reading the Table of Contents. It provides an overview of the topics that will be covered and gives a sense of the way in which the various topics are interrelated. Next, review the Preface, which describes the book's major features. Keep in mind that each chapter is divided into three or four self-contained units; these provide logical starting and stopping points for reading and studying.

Note, also, the major highlights of each chapter: a chapter-opening outline, a Prologue, a Looking Ahead section, Recaps and Reviews of key information following each of the major units, and—at the end of every chapter—a Looking Back section and a list of Key Terms and Concepts. The Looking Back summary is organized around the questions posed in the Looking Ahead section at the beginning of the chapter, thereby tying the chapter's contents together.

Because every chapter is structured in this same way, the book provides a set of familiar landmarks to help you chart your way through new material. This structure will help you in organizing each chapter's content.

Finally, there are certain styles of writing used by psychologists with which you should be familiar. In particular, citations to previous research are indicated by a

name and date, typically set off in parentheses. Each of these names and dates refers to a book or article included in the Reference list at the end of this book.

- Use a study strategy. Although we are expected to study and ultimately learn a wide range of material throughout our schooling, we are rarely taught any systematic strategies that permit us to study more effectively. Yet just as we wouldn't expect a physician to learn human anatomy by trial and error, it is the unusual student who is able to stumble upon a truly effective studying strategy.

Psychologists, however, have devised several excellent (and proven) techniques for improving study skills, two of which are described here. By employing one of these procedures—known by the initials “SQ3R” and “MURDER”—you can increase your ability to learn and retain information and to think critically, not just in psychology classes but in all academic subjects.

The SQ3R method includes a series of five steps, designated by the initials S-Q-R-R-R. The first step is to *survey* the material by reading the chapter outlines, chapter headings, figure captions, Recaps, and Looking Ahead and Looking Back sections, providing yourself with an overview of the major points of the chapter. The next step—the “Q” in SQ3R—is to *question*. Formulate questions—either aloud or in writing—before actually reading a section of the material. For instance, if you had first surveyed this section of the book, you might jot down in the margin, “What do “SQ3R” and “MURDER” stand for?” The queries posed at the start of the major sections and the reviews that end each part of the chapter are also a good source of questions. But it is important not to rely on them entirely; making up your own questions is critical. *Understanding Psychology* has wide margins in which you can write your own questions. This process helps you to focus on the key points of the chapter, while at the same time putting you in an inquisitive frame of mind.

It is now time for the next, and most crucial, step: to *read* the material. Read carefully and, even more importantly, read actively and critically. For instance, while you

are reading, answer the questions you have asked yourself. You may find yourself coming up with new questions as you read along; that's fine, since it shows you are reading inquisitively and paying attention to the material. Critically evaluate material by considering the implications of what you are reading, thinking about possible exceptions and contradictions, and examining the assumptions that lie behind the assertions made by the author.

The next step—the second “R”—is the most unusual. This “R” stands for *recite*, in which you look up from the book and describe and explain to yourself, or to a friend, the material you have just read and answer the questions you have posed earlier. Do it aloud; this is one time when talking to yourself is nothing to be embarrassed about. The recitation process helps you to clearly identify your degree of understanding of the material you have just read. Moreover, psychological research has shown that communicating material to others, or reciting it aloud to yourself, assists you in learning it in a different—and deeper—way than material that you do not intend to communicate. Hence, your recitation of the material is a crucial link in the studying process.

The final “R” refers to *review*. As we discuss in Chapter 7, reviewing is a prerequisite to fully learning and remembering material you have studied. Look over the information, reread the Recaps and Looking Back summaries; answer in-text review questions; and use any ancillary materials you may have available. (Both a traditional and a computerized student study guide are available to accompany *Understanding Psychology*.) Reviewing should be an active process, in which you consider how different pieces of information fit together and develop a sense of the overall picture.

An alternative approach to studying—although not altogether dissimilar to SQ3R—is provided by the MURDER system (Dansereau, 1978). Despite the deadly connotations of its title, the MURDER system is a useful study strategy.

In MURDER, the first step is to establish an appropriate *mood* for studying by setting goals for a study session and choosing a time and place in which you will not be distracted. Next comes reading for *understanding*, in which careful attention is paid to the meaning of the material being studied. *Recall* is an immediate attempt to recall the material from memory, without referring to the text. *Digesting* the material comes next; you should correct any recall errors, and attempt to organize and store newly learned material in memory.

You should work next on *expanding* (analyzing and evaluating) new material and try to apply it to situations

that go beyond the applications discussed in the text. By incorporating what you have learned into a larger information network in memory, you will be able to recall it more easily in the future. Finally, the last step is *review*. Just as with the SQ3R system, MURDER suggests that the systematic review of material is a necessary condition for successful studying.

Both the SQ3R and MURDER systems provide a proven means of increasing your study effectiveness. It is not necessary, though, to feel tied to a particular strategy; you might want to combine other elements into your own study system. For example, learning tips and strategies for critical thinking will be presented throughout *Understanding Psychology*, such as in Chapter 7 when the use of mnemonics (memory techniques for organizing material to help its recall) is discussed. If these tactics help you to successfully master new material, stick with them.

The last aspect of studying that warrants mention is that *when* and *where* you study are in some ways as important as *how* you study. One of the truisms of the psychological literature is that we learn things better, and are able to recall them longer, when we study material in small chunks over several study sessions, rather than massing our study into one lengthy period. This implies that all-night studying just before a test is going to be less effective—and a lot more tiring—than employing a series of steady, regular study sessions.

In addition to carefully timing your studying, you should seek out a special location to study. It doesn't really matter where it is, as long as it has minimal distractions and is a place that you use *only* for studying. Identifying a special “territory” allows you to get in the right mood for study as soon as you begin.

A FINAL COMMENT

By using the proven study strategies presented above, as well as by making use of the pedagogical tools integrated in the text, you will maximize your understanding of the material in this book and will master techniques that will help you learn and think critically in all your academic endeavors. More importantly, you will optimize your understanding of the field of psychology. It is worth the effort: the excitement, challenge, and promise that psychology holds for you are significant.

Robert S. Feldman

CONTENTS IN BRIEF

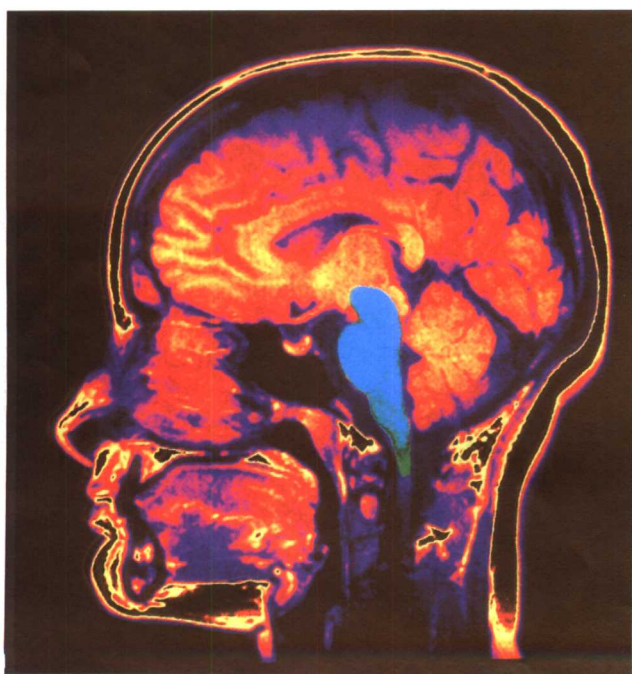
CHAPTER 1	INTRODUCTION TO PSYCHOLOGY	2
CHAPTER 2	RESEARCH METHODS	30
CHAPTER 3	THE BIOLOGY UNDERLYING BEHAVIOR	56
CHAPTER 4	SENSATION AND PERCEPTION	94
CHAPTER 5	STATES OF CONSCIOUSNESS	142
CHAPTER 6	LEARNING	180
CHAPTER 7	MEMORY	216
CHAPTER 8	COGNITION AND LANGUAGE	252
CHAPTER 9	INTELLIGENCE	288
CHAPTER 10	MOTIVATION AND EMOTION	318
CHAPTER 11	GENDER AND HUMAN SEXUALITY	356
CHAPTER 12	DEVELOPMENT: THE BEGINNINGS OF LIFE	394
CHAPTER 13	DEVELOPMENT: ADOLESCENCE TO THE END OF LIFE	428
CHAPTER 14	PERSONALITY	462
CHAPTER 15	HEALTH PSYCHOLOGY	496
CHAPTER 16	PSYCHOLOGICAL DISORDERS	530
CHAPTER 17	TREATMENT OF PSYCHOLOGICAL DISORDERS	570
CHAPTER 18	SOCIAL PSYCHOLOGY	602
CHAPTER 19	PSYCHOLOGY IN A DIVERSE WORLD	638
APPENDIX:	STATISTICS	665
GLOSSARY		679
REFERENCES		690
INDEXES		735

CONTENTS

		CHAPTER 2	
		RESEARCH METHODS	30
		<i>Prologue Rodney King</i>	32
		Looking Ahead	32
		Posing Questions: The Scientific	
		Method	33
		Theories: Specifying Broad Explanations	34
		Hypotheses: Crafting Testable Predictions	35
		Recap and Review	36
		Finding Answers: Psychological	
		Research	36
		Archival Research	37
		Naturalistic Observation	37
		Survey Research	38
		Psychology at Work Psychologists as	
		Bias-Busters: Eliminating Distortions	39
		in Surveys	40
		The Case Study	40
		Correlational Research	40
		Experimental Research	42
		Pathways Through Psychology Mary Garrett	47
		Recap and Review	48
		Research Challenges: Exploring	
		the Process	48
		The Ethics of Research	50
		Exploring Diversity Choosing Subjects That	
		Represent the Scope of Human Behavior	50
		Should Animals Be Used in Research?	50
		Threats to Experiments: Experimenter	
		and Subject Expectations	51
		The Significance of Research	52
		The Informed Consumer of Psychology	
		Thinking Critically about Research	53
		Recap and Review	54
		Looking Back	55
		Key Terms and Concepts	55
			ix
		CHAPTER 1	
		INTRODUCTION	
		TO PSYCHOLOGY	
		<i>Prologue Aftershocks of Terror</i>	
		Looking Ahead	
		Psychologists at Work	
		The Branches of Psychology: Psychology's	
		Family Tree	
		Exploring Diversity The Demographics of the	
		Discipline	
		Pathways Through Psychology Sandra Thomas	
		Recap and Review	
		A Science Evolves: The Past, the	
		Present, and the Future	
		The Roots of Psychology	
		Women in Psychology: Founding Mothers	
		Today's Perspectives	
		Psychology at Work Psychology and the	
		Prevention of Violence	
		Recap and Review	
		Connections: Psychology's Unifying	
		Themes	
		The Links between Psychology's Branches	
		and Perspectives	
		Psychology's Key Issues and Questions	
		Psychology's Future	
		The Informed Consumer of Psychology	
		Distinguishing Professional Psychology from	
		Pseudo-Psychology	
		Recap and Review	
		Looking Back	
		Key Terms and Concepts	

CHAPTER 3 THE BIOLOGY UNDERLYING BEHAVIOR

<i>Prologue A Heart-Stopping Cure</i>	58
Looking Ahead	58
Neurons: The Elements of Behavior	59
The Structure of the Neuron	59
Firing the Neuron	61
Where Neuron Meets Neuron: Bridging the Gap	63
Neurotransmitters: Multitalented Chemical Couriers	65
<i>Pathways Through Psychology</i> Elaine Shen	68
<i>Recap and Review</i>	68
The Nervous System	69
Central and Peripheral Nervous Systems	69
Activating the Autonomic Nervous System	71
<i>Recap and Review</i>	72
The Brain	72
Studying the Brain's Structure and Functions: Spying on the Brain	72
The Central Core: Our "Old Brain"	74
The Limbic System: Beyond the Central Core	76
<i>Recap and Review</i>	77
The Cerebral Cortex: Up the Evolutionary Ladder	77



<i>Psychology at Work</i> Mending the Brain	83
The Specialization of the Hemispheres: Two Brains or One?	83
<i>Exploring Diversity</i> Human Diversity and the Brain	85
The Split Brain: Exploring the Two Hemispheres	86
Brain Modules: The Architecture of the Brain	87
The Endocrine System: Of Chemicals and Glands	88
<i>The Informed Consumer of Psychology</i>	
Learning to Control Your Heart—	
and Mind—Through Biofeedback	90
<i>Recap and Review</i>	91
Looking Back	92
Key Terms and Concepts	93

CHAPTER 4 SENSATION AND PERCEPTION

<i>Prologue The Painful World of Jennifer Darling</i>	94
Looking Ahead	96
Sensing the World Around Us	97
Absolute Thresholds	98
Signal Detection Theory	99
Just Noticeable Differences	100
Sensory Adaptation	101
<i>Recap and Review</i>	101
Vision: Shedding Light on the Eye	102
Illuminating the Structure of the Eye	103
Adaptation: From Light to Dark	106
Sending the Message from the Eye to the Brain	106
Processing the Visual Message	107
Color Vision and Color Blindness: The 7-Million-Color Spectrum	109
<i>Recap and Review</i>	111
Hearing and the Other Senses	112
Sensing Sound	112
<i>Psychology at Work</i> Restoring Hearing to the Deaf: A Mixed Blessing?	117
Balance: The Ups and Downs of Life	117
Smell and Taste	118
The Skin Senses: Touch, Pressure, Temperature, and Pain	120
<i>Pathways Through Psychology</i> Mark Jensen	123
<i>Recap and Review</i>	123

Perceptual Organization: Constructing Our View of the World	124
The Gestalt Laws of Organization	125
Feature Analysis: Focusing on the Parts of the Whole	126
Top-Down and Bottom-Up Processing	129
Perceptual Constancy	130
Depth Perception: Translating 2-D to 3-D	130
Motion Perception: As the World Turns	131
Perceptual Illusions: The Deceptions of Perceptions	132
<i>Exploring Diversity</i> Culture and Perception	135
Subliminal Perception and Other Perceptual Controversies	136
<i>The Informed Consumer of Psychology</i> Managing Pain	138
<i>Recap and Review</i>	139
Looking Back	140
Key Terms and Concepts	141

CHAPTER 5 STATES OF CONSCIOUSNESS

Prologue The Long Days and Short Life of Frank Ingulli	144
Looking Ahead	144
Sleep and Dreams	145
The Stages of Sleep	146
REM Sleep: The Paradox of Sleep	148
Is Sleep Necessary?	149
Circadian Rhythms: Life Cycles	150
The Function and Meaning of Dreaming	152
<i>Psychology at Work</i> Resetting the Body's Internal Clock: Staying Up as the Sun Goes Down	153
Daydreams: Dreams without Sleep	156
Sleep Disturbances: Slumbering Problems	157
<i>Pathways Through Psychology</i> Thomas Roth	158
<i>The Informed Consumer of Psychology</i> Sleeping Better	159
<i>Recap and Review</i>	160
Hypnosis and Meditation	161
Hypnosis: A Trance-Forming Experience?	161
Meditation: Regulating Our Own State of Consciousness	164
<i>Exploring Diversity</i> Cross-Cultural Routes to Altered States of Consciousness	165
<i>Recap and Review</i>	166
Drug Use: The Highs and Lows of Consciousness	167
Stimulants: Drug Highs	168

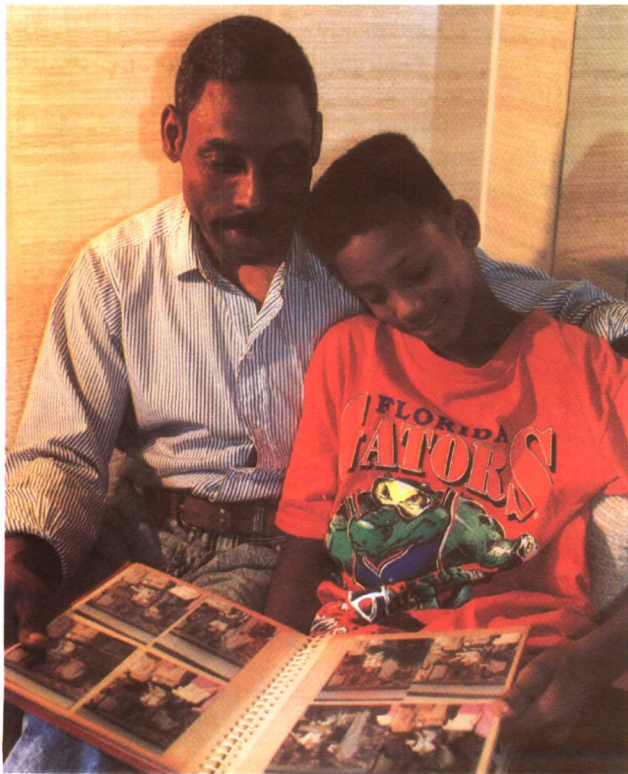
Depressants: Drug Lows	172
Narcotics: Relieving Pain and Anxiety	175
Hallucinogens: Psychedelic Drugs	175
<i>The Informed Consumer of Psychology</i> Identifying Drug and Alcohol Problems	176
<i>Recap and Review</i>	177
Looking Back	178
Key Terms and Concepts	179

CHAPTER 6 LEARNING

Prologue Henrietta, Sue Strong's Lifeline	182
Looking Ahead	183
Classical Conditioning	184
The Basics of Conditioning	184
Applying Conditioning Principles to Human Behavior	187
Extinction: Unlearning What We Have Learned	187
Spontaneous Recovery: The Return of the Conditioned Response	188
Generalization and Discrimination	188
Higher-Order Conditioning	189
Beyond Traditional Classical Conditioning: Challenging Basic Assumptions	190
<i>Recap and Review</i>	191
Operant Conditioning	192
Thorndike's Law of Effect	192
The Basics of Operant Conditioning	193
Positive Reinforcers, Negative Reinforcers, and Punishment	195
The Pros and Cons of Punishment: Why Reinforcement Beats Punishment	196



Schedules of Reinforcement: Timing	198
Life's Rewards	
Discrimination and Generalization in	
Operant Conditioning	201
Superstitious Behavior	201
Shaping: Reinforcing What Doesn't	
Come Naturally	202
<i>Pathways Through Psychology</i> Lynne Calero	203
Biological Constraints on Learning: You	
Can't Teach an Old Dog Just Any Trick	203
<i>Recap and Review</i>	204
Cognitive Approaches to Learning	205
Latent Learning	205
Observational Learning: Learning through	
Imitation	207
<i>Exploring Diversity</i> Does Culture Influence	
How We Learn?	208
<i>Psychology at Work</i> Violence on Television	
and Film: Does the Media's Message Matter?	208
The Unresolved Controversy of Cognitive	
Learning Theory	211
<i>The Informed Consumer of Psychology</i> Using	
Behavior Analysis and Behavior Modification	211
<i>Recap and Review</i>	213
Looking Back	214
Key Terms and Concepts	215



CHAPTER 7 MEMORY

	216
<i>Prologue</i> Memory on Trial:	
The Buckey Case	218
Looking Ahead	218
Encoding, Storage, and Retrieval	219
of Memory	
The Three Systems of Memory: Memory	
Storehouses	220
Levels of Processing	230
<i>Recap and Review</i>	231
Recalling Long-Term	231
Memories	
Retrieval Cues	232
Flashbulb Memories	233
Constructive Processes in Memory:	
Rebuilding the Past	235
Memory in the Courtroom: The Eyewitness	
on Trial	236
Autobiographical Memory: Where Past	
Meets Present	238
<i>Exploring Diversity</i> Are There Cross-Cultural	
Differences in Memory?	238
<i>Psychology at Work</i> Repressed Memories:	
Truth or Fiction?	239
<i>Recap and Review</i>	240
Forgetting:	
When Memory Fails	241
Proactive and Retroactive Interference:	
The Before and After of Forgetting	242
The Biological Bases of Memory: The	
Search for the Engram	243
Memory Dysfunctions: Afflictions of	
Forgetting	245
<i>Pathways Through Psychology</i> Janice	
McGillick	247
<i>The Informed Consumer of Psychology</i>	
Improving Your Memory	247
<i>Recap and Review</i>	250
Looking Back	250
Key Terms and Concepts	251

CHAPTER 8 COGNITION AND LANGUAGE 252

<i>Prologue</i> Quick Fix in Space: The	
Hubble Telescope	254
Looking Ahead	254
Thinking and Reasoning	255
Thinking	255